

PATENT CLAIMS

1. Apparatus (1) for coating substrates (13), with a substrate holder (5) on which the substrate is supported in such a way that a substrate surface (15) that is to be coated is exposed and is directed downwardly, and a device for turning the substrate holder (5), characterized by a cover (20) that can be secured to the substrate holder (5) and that together with the substrate holder (5) forms a sealed chamber (36) for receiving the substrate (13).

2. Apparatus (1) according to claim 1, characterized by a holding mechanism (50) on the substrate holder (5) for holding the substrate (13) with vacuum.

3. Apparatus (1) according to claim 1 or 2, characterized by a holding mechanism (18;54) on the substrate holder (5) for holding the cover (20) with vacuum.

4. Apparatus (1) according to one of the preceding claims, characterized in that the holding mechanisms (50;18,54) for the substrate (13) and for the cover (20) are connected to a common vacuum source.

5. Apparatus (1) according to one of the preceding claims, characterized in that the holding mechanisms (50;18,54) for the substrate (13) and for the cover (20) can be controlled independently of one another.

6. Apparatus (1) according to one of the preceding claims, characterized by at least one sealing means that delimits the vacuum region between the substrate holder (5) and the cover (20).

7. Apparatus (1) according to one of the preceding claims, characterized by a recess (12) in the substrate holder (5) for at least partial accommodation of the substrate (13).

8. Apparatus (1) according to one of the preceding claims, characterized by a centering mechanism (16; 66) for the mutual centering of the cover (20) and the substrate holder (5).

9. Apparatus (1) according to one of the preceding claims, characterized by at least one slanted centering portion (16;66) on the substrate holder and/or on the cover.

10. Apparatus (1) according to one of the preceding claims, characterized in that the cover (20) is symmetrical relative to a central axis (C).

11. Apparatus (1) according to one of the preceding claims, characterized by a notch (32) in the outer region of the portion of the cover (20) that defines the chamber.

12. Apparatus (1) according to one of the preceding claims, characterized in that the notch (32) tapers outwardly.

13. Apparatus (1) according to one of the preceding claims, characterized in that the notch (32) is inclined on that side (60) that faces the substrate holder.

14. Apparatus (1) according to one of the preceding claims, characterized in that the cover (20) is symmetrical relative to its central plane (B).

5 15. Apparatus (1) according to one of the preceding claims, characterized by a device for turning the cover (20).

16. Apparatus (1) according to one of the preceding claims, characterized by a receiver (22) for supporting the cover (20).

10 17. Apparatus (1) according to one of the preceding claims, characterized by a device for raising and lowering the receiver (22).

18. Apparatus (1) according to one of the preceding claims, characterized by a rinsing and/or drying device (40) for the cover (20).

15 19. Apparatus (1) according to one of the preceding claims, characterized in that the rinsing and/or drying device (40) is part of the receiver (22) and is provided with at least one nozzle (40) that is directed against the cover (20) and/or the notch (32).

20 20. Apparatus (1) according to one of the preceding claims, characterized in that at least one nozzle (40) is adapted to be supplied with a rinsing and/or drying fluid.

21. Apparatus (1) according to one of the preceding claims, characterized in that the rinsing fluid contains a solvent.

22. Method for coating substrates (13), according to which the substrate (13) is supported on a substrate holder (5) in such a way that a substrate surface (15) that is to be coated is exposed and is directed downwardly, and the substrate (13) is rotated along with the substrate holder (5), characterized in that a cover (20) is secured on the substrate holder (5) and together with the substrate holder (5) forms a sealed chamber (36) for the substrate (5).

23. Method according to claim 29, characterized in that the substrate (13) is held on the substrate holder (5) with vacuum.

24. Method according to one of the claims 22 or 23, characterized in that the cover (20) is held on the substrate holder (5) with vacuum.

25. Method according to one of the claims 22 to 24, characterized in that the cover (20) and the substrate holder are centered relative to one another prior to the securement.

26. Method according to one of the claims 22 to 25, characterized in that the securement of the cover (20) is released after the rotational processing independently of the securement of the substrate (13).

27. Method according to one of the claims 22 to 26, characterized in that the side of the cover (20) that faces away from the substrate (13) is rinsed and/or dried during the rotational process.

28. Method according to one of the claims 22 to 27, characterized in that a rinsing or drying fluid is conveyed against the cover by means of at least one nozzle (40).

29. Method according to one of the claims 22 to 27, characterized in that the cover (20) is turned between successive rotational processes.

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